



Application No. 09/845,959

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE RECEIVED

Applicants : Charu Aneja et al.

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Serial No. : 09/845,959

OFFICE OF PETITIONS

Filed : April 30, 2001

Title : METHOD AND SYSTEM FOR USING SINGLE OSD PIXMAP
ACROSS MULTIPLE VIDEO RASTER SIZES BY CHAINING OSD
HEADERS

Examiner : Trang U. Tran

Art Unit : 2614

AMENDMENT AND RESPONSE

Commissioner for Patents
Alexandria, Virginia 22313-1450

Sir:

In response to the outstanding Office Action mailed May 5, 2004 for which a shortened statutory period of three months ending August 5, 2004 was set in which to respond, and for which the six month period ending November 5, 2004 was unintentionally permitted to expire, a petition to revive an unintentionally abandoned application pursuant to 37 CFR 1.17(m) is filed herewith. The following amendments and comments are submitted and reconsideration of the claim rejections is respectfully requested.

Please charge the required fee of one thousand three hundred and seventy dollars (\$1,370.00) for the petition to revive an unintentionally abandoned application pursuant to 37 CFR 1.17(m) to Deposit Account 07-0832.

As certified in a certificate of mailing included on the signature page of this document pursuant to 37 CFR §1.8, the present response is being mailed on November 12, 2004.

Please enter the remarks as follows:

Listing of the claims begins on page 2 of this paper.

Remarks begin on page 7 of this paper.

Listing of the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method for displaying a pixmap across at least two raster sizes including a first raster size in a first displaying mode and a second raster size in a second displaying mode, comprising the steps of:

 storing a pixmap containing a plurality of pixel lines, said pixmap being large enough to encompass the first and second raster sizes;

 storing a first header set pointing to a first pixmap region of the stored pixmap, the first pixmap region fitting the first raster size;

 storing a second header set pointing to a second pixmap region of the stored pixmap, the second pixmap region fitting the second raster size;

 detecting whether a displaying mode is in the first displaying mode or the second displaying mode;

 using the first header set to only display the first pixmap region of the stored pixmap when the detected displaying mode is the first displaying mode; and

 using the second header set to only display the second pixmap region of the stored pixmap when the detected displaying mode is the second displaying mode.

2. (previously canceled)

3. (previously presented) The method of claim 1, wherein the first and second header sets contain a plurality of headers, the method further comprising the steps of:

 chaining the headers in the first header set; and

 chaining the headers in the second header set.

4. (original) The method of claim 3, further comprising the steps of:

 using each of the headers in the first header set to point to one of the pixel lines in the pixmap in the first displaying mode; and

using each of the individual headers in the second header set to point to one of the pixel lines in the pixmap in the second displaying mode.

5. (original) The method of claim 4, further comprising the steps of:

using each of the headers in the first header set to select a number of pixels in each of the pixel lines in the first displaying mode; and

using each of the headers in the second header set to select a number of pixels in each of the pixel lines in the second displaying mode.

6. (original) The method of claim 5, wherein the first displaying mode and the second displaying mode display a different number of pixel lines and a different number of pixels in each of the displayed pixel lines.

7. (original) The method of claim 6, wherein the first displaying mode displays 480 pixel lines with each of the pixel lines containing 2096 pixels, and the second displaying mode displays 540 pixel lines with each of the pixel lines containing 1920 pixels.

8. (original) The method of claim 6, wherein the first displaying mode is 2H mode and the second displaying mode is 2.14H mode.

9. (currently amended) A method for displaying a pixmap across at least two raster sizes including a first raster size in a first displaying mode and a second raster size in a second displaying mode, comprising the steps of:

storing a pixmap containing a plurality of pixel lines, said pixmap being large enough to encompass the first and second raster sizes;

storing a first header set containing one header pointing to a first pixmap region of the stored pixmap, the first pixmap region fitting the first raster size;

storing a second header set containing a plurality of headers pointing to a second pixmap region of the stored pixmap, the second pixmap region fitting the second raster size;

detecting whether a displaying mode is in the first displaying mode or the second displaying mode;

using the first header set to only display the first pixmap region of the stored pixmap when the detected displaying mode is the first displaying mode; and

using the second header set to only display the second pixmap region of the stored pixmap when the detected displaying mode is the second displaying mode.

10. (previously canceled)

11. (currently amended) An apparatus for displaying a pixmap across at least two raster sizes including a first raster size in a first displaying mode and a second raster size in a second displaying mode, comprising:

means for storing a pixmap containing a plurality of pixel lines, said pixmap being large enough to encompass the first and second raster sizes;

means for storing a first header set pointing to a first pixmap region of the stored pixmap, the first pixmap region fitting the first raster size;

means for storing a second header set pointing to a second pixmap region of the stored pixmap, the second pixmap region fitting the second raster size;

means for detecting whether a displaying mode is in the first displaying mode or the second displaying mode;

means for using the first header set to only display the first pixmap region of the stored pixmap when the detected displaying mode is the first displaying mode; and

means for using the second header set to only display the second pixmap region of the stored pixmap when the detected displaying mode is the second displaying mode.

12. (previously canceled)

13. (previously presented) The apparatus of claim 11, wherein the first and second header sets contain a plurality of headers, the apparatus further comprising:

means for chaining the headers in the first header set; and
means for chaining the headers in the second header set.

14. (previously presented) The apparatus of claim 11 wherein the first and second header sets contain a plurality of headers, the apparatus further comprising:

means for using each of the headers in the first header set to point to one of the pixel lines in the pixmap in the first displaying mode; and

means for using each of the individual headers in the second header set to point to one of the pixel lines in the pixmap in the second displaying mode.

15. (original) The apparatus of claim 14, further comprising:

means for using each of the headers in the first header set to select a number of pixels in each of the pixel lines in the first displaying mode; and

means for using each of the headers in the second header set to select a number of pixels in each of the pixel lines in the second displaying mode.

16. (previously presented) The apparatus of claim 11, wherein the first displaying mode and the second displaying mode display a different number of pixel lines and a different number of pixels in each of the displayed pixel lines.

17. (original) The apparatus of claim 16, wherein the first displaying mode displays 480 pixel lines with each of the pixel lines containing 2096 pixels, and the second displaying mode displays 540 pixel lines with each of the pixel lines containing 1920 pixels.

18. (original) The apparatus of claim 16, wherein the first displaying mode is 2H mode and the second displaying mode is 2.14H mode.

19. (currently amended) An apparatus for displaying a pixmap across at least two raster sizes including a first raster size in a first displaying mode and a second raster size in a second displaying mode, comprising:

means for storing a pixmap containing a plurality of pixel lines, said pixmap being large enough to encompass the first and second raster sizes;

means for storing a first header set containing one header pointing to a first pixmap region of the stored pixmap, the first pixmap region fitting the first raster size;

means for storing a second header set containing a plurality of headers pointing to a second pixmap region of the stored pixmap, the second pixmap region fitting the second raster size;

means for detecting whether a displaying mode is in the first displaying mode or the second displaying mode;

means for using the first header set to only display the first pixmap region of the stored pixmap when the detected displaying mode is the first displaying mode; and

means for using the second header set to only display the second pixmap region of the stored pixmap when the detected displaying mode is the second displaying mode.

20. (previously canceled)

Remarks

Applicants respectfully request reconsideration of the rejection of the claims in view of the remarks set forth below. Claims 1, 3-9, 11 and 13-19 remain in the application. Claims 1, 9, 11 and 19 are amended. Claims 3-8 and 13-18 remain unchanged.

35 U.S.C. §102

Claims 1, 11 and 16 stand rejected under 35 U.S.C. §102(e) as being anticipated by Knox et al. (U.S. Patent No. 6,640,238 B1). For a reference to anticipate a claimed invention, each and every element of the claim must be found in the reference.

Claim 1, as amended, requires "A method for displaying a pixmap across at least two raster sizes... comprising the steps of...storing a pixmap containing a plurality of pixel lines, said pixmap being large enough to encompass the first and second raster sizes...storing a first header set pointing to a first pixmap region of the stored pixmap, the first pixmap region fitting the first raster size...storing a second header set pointing to a second pixmap region of the stored pixmap, the second pixmap region fitting the second raster size...detecting whether a displaying mode is in the first displaying mode or the second displaying mode...using the first header set to *only* display the first pixmap region of the stored pixmap when the detected displaying mode is the first displaying mode...and using the second header set to *only* display the second pixmap region of the stored pixmap when the detected displaying mode is the second displaying mode." Support for the amendment to claim 1 is found on pages 9 and 10 and Fig. 6 of Applicants' application.

As discussed on pages 1-2 and 12 of Applicants' application, the benefit of "storing a pixmap...large enough to encompass the first and second raster sizes" is that it avoids the waste of memory space and reduction of system speed that may be otherwise encountered by storing multiple pixmaps for multiple raster sizes. Furthermore, the benefit of "storing a first header set pointing to a first pixmap region of the stored pixmap, the first pixmap region fitting the first raster size" and "storing a second header set pointing to a second pixmap region of the stored pixmap, the second pixmap region fitting the second raster size" is that once the display mode associated with a raster size is detected the header associated with a pixmap fitting the

detected raster size can be selected and processed so the pixmap can be displayed without encountering the header-rewrite delay (discussed on pages 8 and 9 of Applicants' application) that may otherwise be encountered during a conventional OSD retrieval process. Claim 1, as currently amended, more particularly points out and distinctly claims Applicants' invention by reciting "using the first header set to *only* display the first pixmap region of the stored pixmap when the detected displaying mode is the first displaying mode...and using the second header set to *only* display the second pixmap region of the stored pixmap when the detected displaying mode is the second displaying mode." In other words, only the first pixmap region or the second pixmap region of the stored pixmap is displayed depending on which display mode is detected. This is further described on pages 9 and 10 of Applicants' application and shown in Fig. 6 of the application.

Knox et al. appears to be directed towards a method and apparatus for generating OSD messages (e.g., Closed Captioning) without increasing hardware requirements (e.g., increasing memory or bandwidth) when complicated video frames are received that require additional memory resources to be processed. (Col. 1, lines 56-60; and col. 7, lines 13-21). To this end, Knox et al. discloses a processor 130 that stores an OSD header 210 and associated OSD bit map 220 in a memory 140 and rewrites a top block pointer 240 or a bottom block pointer 242 of the region coordinates 214 of the OSD header 210 to enable or disable a Field Doubling Mode. (Col. 4, lines 1-14; col. 5, line 66 to col. 6, line 10). Alternatively, the processor 130 may rewrite a single bit in the OSD header 210 to enable or disable the Field Doubling Mode. (Col. 7, lines 23-25).

The May 5, 2004 office action states that Fig. 3 of Knox et al. discloses using a first header set 310 to display a first region 352 when a first display mode (e.g., "Field Doubling" disabled) is detected and using a second header set 320 to display a second region 354 when a second display mode (e.g., "Field Doubling" enabled) is detected. Applicants respectfully disagree. Regardless of whether the field doubling mode is enabled or disabled for a given OSD region 352 or 354, all of the OSD regions 352 and 354 are displayed in a given frame 350. (See e.g., col. 6, lines 36-38; col. 4, lines 33-37; and note the linking of header 310 to header 320 in Fig. 3). In contrast to Knox, amended claim 1 recites "using the first header set

to *only* display the first pixmap region of the stored pixmap when the detected displaying mode is the first displaying mode...and using the second header set to *only* display the second pixmap region of the stored pixmap when the detected displaying mode is the second displaying mode.“ Since amended claim 1 contains at least one element that is missing from Knox et al., Applicants respectfully propose that the rejection for anticipation is overcome.

Independent Claim 11 is amended to include elements similar to the elements of amended independent claim 1 and should therefore be allowable for the same reasons discussed above as well as for the additional recitations contained therein. Therefore, it is respectfully proposed that the rejection for anticipation is overcome.

Dependent claims 16, being dependent on and further limiting independent claim 11, should be allowable for that reason, as well as for the additional recitations that it contains. Therefore, it is respectfully proposed that the rejection for anticipation is overcome.

35 U.S.C. §103

Claims 17 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Knox et al. Claims 17 and 18 depend from claim 16 that, in turn, depends from independent claim 11. Claims 17 and 18 should therefore be allowable for the same reasons as discussed for claims 11 and 16 as well as for the additional recitations contained therein. Therefore, it is respectfully proposed that the rejection of claims 17 and 18 under 35 U.S.C. § 103(a) is overcome in accordance with the above remarks and notice to that effect is earnestly solicited.

Claims 3-9, 13-15 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Knox et al in view of Min et al. (U.S. Patent No. 6,462,746). Under U.S.C. § 103, the prior art reference (or references when combined) must teach or suggest all of the claim limitations (MPEP § 706.02(j)).

Claims 3-8 depend from claim 1 and should therefore be allowable for the same reasons as discussed for claim 1 as well as for the additional recitations contained therein. Therefore, it is respectfully proposed that the rejection of claims 3-8 under 35 U.S.C. § 103(a) is overcome in accordance with the above remarks and notice to that effect is earnestly solicited.

It is respectfully submitted that claim 9, as amended, is patentably distinguishable from Knox et al. and Min et al. Claim 9, as amended, requires a "method for displaying a pixmap across at least two raster sizes including a first raster size in a first displaying mode and a second raster size in a second displaying mode, comprising the steps of...storing a pixmap containing a plurality of pixel lines, said pixmap being large enough to encompass the first and second raster sizes...storing a first header set containing one header pointing to a first pixmap region of the stored pixmap, the first pixmap region fitting the first raster size...storing a second header set containing a plurality of headers pointing to a second pixmap region of the stored pixmap, the second pixmap region fitting the second raster size...detecting whether a displaying mode is in the first displaying mode or the second displaying mode...using the first header set to *only* display the first pixmap region of the stored pixmap when the detected displaying mode is the first displaying mode...and using the second header set to *only* display the second pixmap region of the stored pixmap when the detected displaying mode is the second displaying mode." Support for the amendment to claim 9 is found on pages 9 and 10 and Fig. 6 of Applicants' application.

As discussed above, the benefit of "storing a pixmap...large enough to encompass the first and second raster sizes" is that it avoids the waste of memory space and reduction of system speed that may be otherwise encountered by storing multiple pixmaps for multiple raster sizes. Furthermore, the benefit of "storing a first header set containing one header pointing to a first pixmap region of the stored pixmap, the first pixmap region fitting the first raster size" and "storing a second header set containing a plurality of headers pointing to a second pixmap region of the stored pixmap, the second pixmap region fitting the second raster size" is that once the display mode associated with a raster size is detected the header associated with a pixmap fitting the detected raster size can be selected and processed so the pixmap can be displayed without encountering the header-rewrite delay that may otherwise be encountered during a conventional OSD retrieval process. Claim 9, as currently amended, more particularly points out and distinctly claims Applicants' invention by reciting "using the first header set to *only* display the first pixmap region of the stored pixmap when the detected displaying mode is the first displaying mode...and using the second header set to *only* display

the second pixmap region of the stored pixmap when the detected displaying mode is the second displaying mode.“ In other words, only the first pixmap region or the second pixmap region of the stored pixmap is displayed depending on which display mode is detected.

As discussed above, Knox et al. does not appear to disclose only displaying the first pixmap region or the second pixmap region of the stored pixmap depending on which display mode is detected. Rather, Knox et al. appears to teach displaying all of the pixmap regions in a given frame regardless of what display mode (i.e., enabled “Field doubling” or disabled “Field Doubling”) is detected. Thus it is respectfully submitted that the present invention, as defined by amended claim 9, is neither taught nor suggested by Knox et al.

Min et al. discloses storing a single global header and an associated pixel map image in a memory. (Col. 7, lns. 33-65). The global header appears to contain the memory location of the entire pixel map. (Col. 7, lns. 54-60; Fig. 8). Min et al. also discloses storing a plurality of local headers where each local header is associated with a different region (i.e., sub pixel map) of the stored pixel map (Col. 7, lns. 33-65). Each local header appears to contain a memory location of a different region within the pixel map. (Col. 7, lns. 40-42 & 60-65; Fig. 9). Using this approach Min et al. teaches a process for displaying a pixel map having regions with different characteristics (e.g., highlights, size, color, and blend ratio). (Col 7, ln. 54 to Col. 8, ln 30; Figs. 7-10). Min et al. does not appear to disclose only displaying a first pixmap region or a second pixmap region of a stored pixmap depending on which display mode is detected.

In contrast to Min et al., the present invention, as defined by amended claim 9, recites, *inter alia*, "using the first header set to *only* display the first pixmap region of the stored pixmap when the detected displaying mode is the first displaying mode...and using the second header set to *only* display the second pixmap region of the stored pixmap when the detected displaying mode is the second displaying mode." Thus, it is respectfully submitted that the present invention, as defined by amended claim 9, is neither taught nor suggested by Min et al.

As a result, it is respectfully submitted that Knox et al. and Min et al., alone or in combination, do not teach or suggest the "using the first header set to *only* display the first pixmap region of the stored pixmap when the detected displaying mode is the first displaying mode...and using the second header set to *only* display the second pixmap region of the stored

pixmap when the detected displaying mode is the second displaying mode" limitations of amended claim 9. Therefore, it is respectfully proposed that the rejection of claim 9 under 35 U.S.C. § 103(a) is overcome in accordance with the above remarks and notice to that effect is earnestly solicited.

Dependent claims 13-15, being dependent on and further limiting independent claim 11, should be allowable for that reason, as well as for the additional recitations that they contain. Therefore, it is respectfully proposed that the rejection of claims 13-15 under 35 U.S.C. § 103(a) is overcome in accordance with the above remarks and notice to that effect is earnestly solicited.

Amended independent claim 19 includes elements similar to the elements of amended independent claim 9 and should therefore be allowable for the same reasons discussed above as well as for the additional recitations contained therein. Therefore, it is respectfully proposed that the rejection of claim 19 under 35 U.S.C. § 103(a) is overcome in accordance with the above remarks and notice to that effect is earnestly solicited.

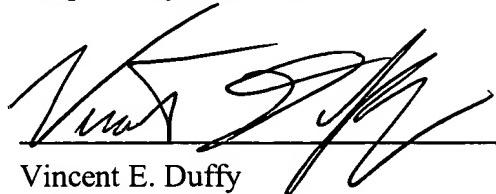
Having fully addressed the Examiner's rejections it is believed that, in view of the preceding remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the Applicants' attorney at (317) 587-4019, so that a mutually convenient date and time for a telephonic interview may be scheduled.

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No fees, other than those discussed above, are believed due. However, if a fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,



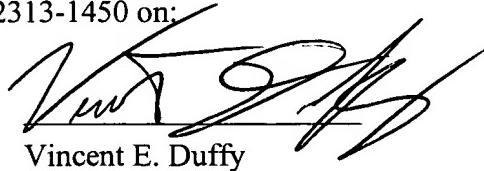
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November 12, 2004

CERTIFICATE OF MAILING

I hereby certify that this amendment is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

11/12/04
date


Vincent E. Duffy